

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: FLAT MOUNTAIN POND (1&2)	Lake Area (ha):	15.66
Town: WATERVILLE	Maximum depth (m):	5.5
County: Grafton	Mean depth (m):	1.3
River Basin: Saco	Volume (m ³):	198500
Latitude: 43°55'01" N	Relative depth:	1.2
Longitude: 71°27'00" W	Shore configuration:	1.92
Elevation (ft): 2311	Areal water load (m/yr):	19.97
Shore length (m): 2700	Flushing rate (yr ⁻¹):	15.80
Watershed area (ha): 474.0	P retention coeff.:	0.48
% watershed ponded: 0.3	Lake type:	natural w/dam

BIOLOGICAL:

22 February 1995

26 July 1994

DOM. PHYTOPLANKTON (% TOTAL)	#1	DINOBRYON 80%	DINOBRYON 80%
	#2	(ALL ALGAE SPARSE)	
	#3		
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			5.78
DOM. ZOOPLANKTON (% TOTAL)	#1	SPARSE - NO DOMINANT	KERATELLA 46%
	#2		POLYARTHRA 29%
	#3		NAUPLIUS LARVA 20%
ROTIFERS/LITER		36	621
MICROCRUSTACEA/LITER		<1	207
ZOOPLANKTON ABUNDANCE (#/L)		36	828
VASCULAR PLANT ABUNDANCE			Common
SECCHI DISK TRANSPARENCY (m)			2.5
BOTTOM DISSOLVED OXYGEN (mg/L)		13.5	0.4
BACTERIA (E. coli, #/100 ml)	#1		< 1
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

weakly stratified

Depth of thermocline (m): None
Hypolimnion volume (m³) : None
Anoxic volume (m³) : 1500

CHEMICAL:

Lake: FLAT MOUNTAIN POND (1&2)
Town: WATERVILLE

	22 February 1995		26 July 1994		
DEPTH (m)	1.0		1.0		3.0
pH (units)	6.0		6.2		5.9
A.N.C. (Alkalinity)	3.2		1.7		3.3
NITRATE NITROGEN	< 0.10		< 0.05		0.18
TOTAL KJELDAHL NITROGEN	0.30		0.30		0.30
TOTAL PHOSPHORUS	<0.001		0.023		0.021
CONDUCTIVITY (μ mhos/cm)	20.8		17.0		20.5
APPARENT COLOR (cpu)	16		41		68
MAGNESIUM			0.25		
CALCIUM			1.3		
SODIUM			0.8		
POTASSIUM			0.16		
CHLORIDE	< 2		< 2		< 2
SULFATE	4		3		3
TN : TP			13		23
CALCITE SATURATION INDEX			4.8		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1994

D.O. S.D. PLANT CHL TOTAL CLASS

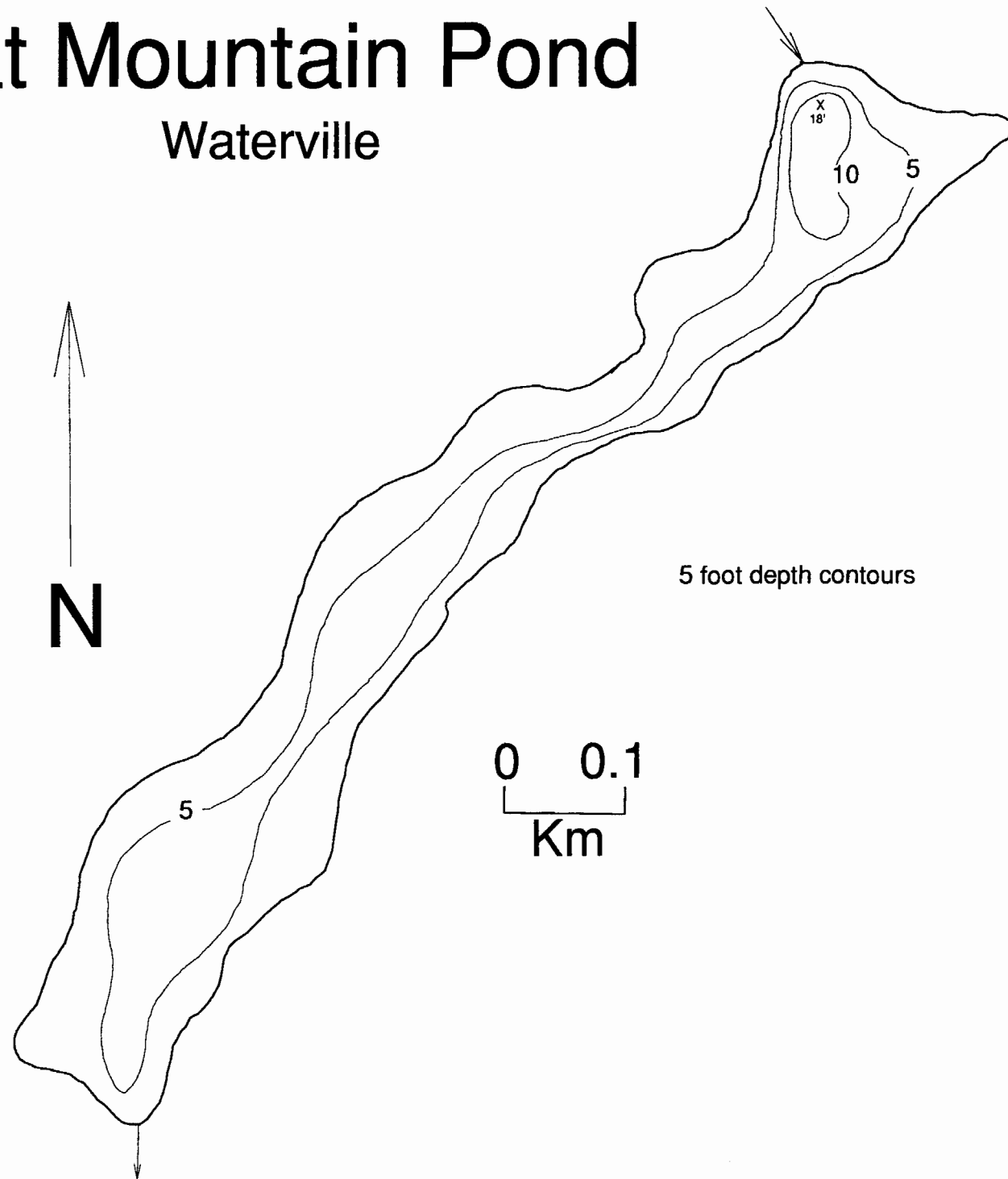
**	3	3	1	7	Meso.
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COMMENTS:

1. This is a high elevation remote trout pond, located within the White Mountain National Forest, that was sampled jointly with the NH Fish and Game Department. This pond has been sampled annually by helicopter for acid rain trends since 1982.
2. At one time this was two ponds, but a beaver dam flooded the two ponds into one.
3. The pond was not sounded for depth readings; the bathymetric map was constructed using soundings from a USDA brochure on trout fishing in the White Mountain National Forest.

Flat Mountain Pond

Waterville



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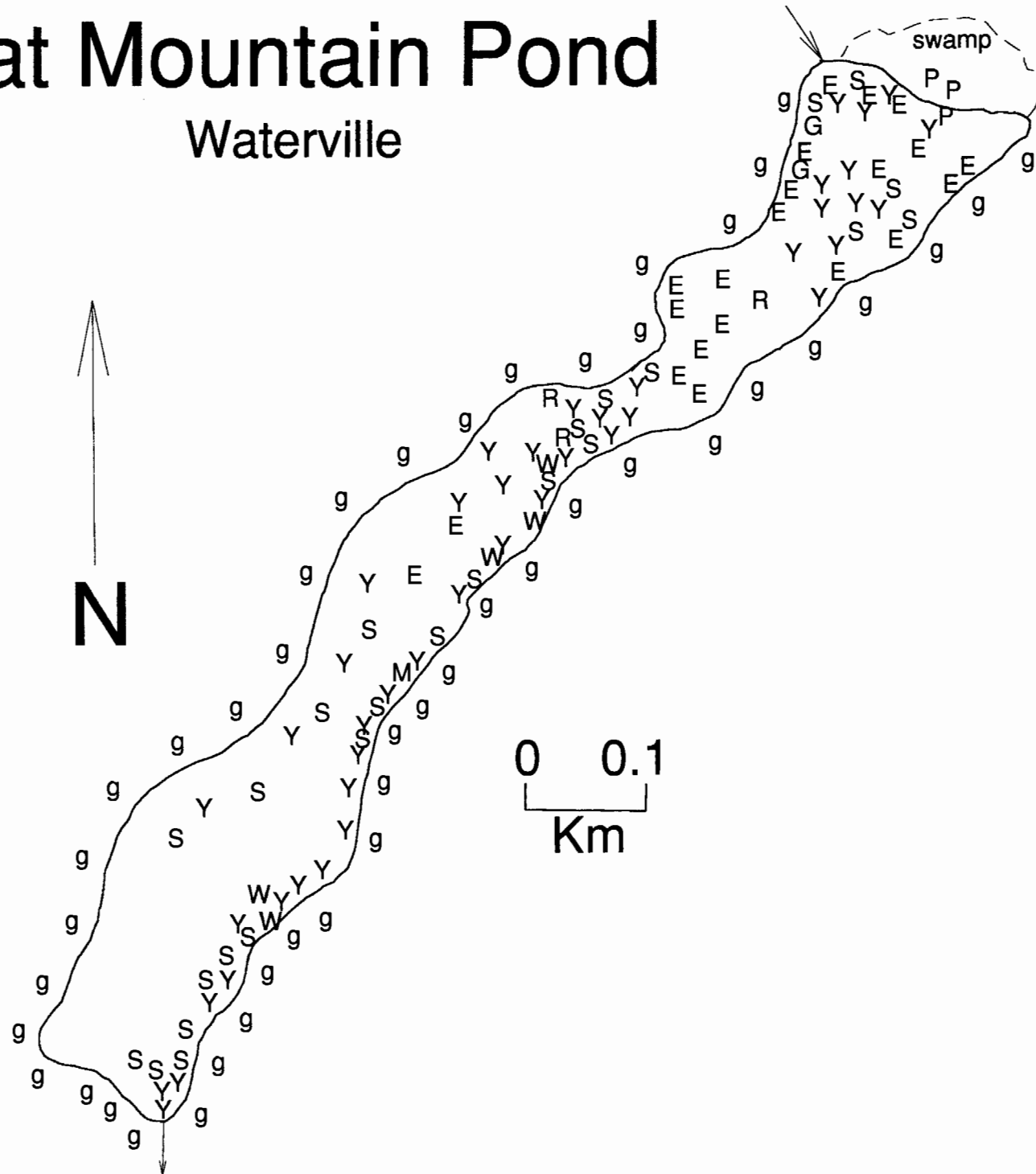
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COMMENTS: There was a 13°C temperature difference from top to bottom, but there was no thermocline or thermal layers; there was a uniform drop in temperature with depth.

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Flat Mountain Pond

Waterville



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